WHAT IS CLAIMED IS:

1. A network apparatus for receiving data via a first cable and transmitting data via a second cable, the apparatus comprising:

a control unit operating with a first power supply and outputting a first signal;

an intermediate potential supply unit operating with a second power supply, recognizing a level of an intermediate potential on the first cable, and supplying an intermediate potential to the second cable; and

a level converting unit for converting a level of the first signal in accordance with respective voltage levels at the first and second power supplies and supplying, as a second signal, a resulting signal to the intermediate potential supply unit,

the intermediate potential supply unit comprising:

a switch for receiving the second signal and a ground potential and selectively outputting either one of the second signal and the ground potential in accordance with a switch signal; and

a driver for generating the intermediate potential to be supplied to the second cable in accordance with an output from the switch.

2. A network apparatus for receiving data via a first cable and transmitting data via a second cable, the apparatus comprising:

a control unit operating with a first power supply and outputting a first signal;

an intermediate potential supply unit operating with a second power supply, recognizing a level of an intermediate potential on the first cable, and supplying an intermediate potential to the second cable; and

a level converting unit for converting a level of the first signal in accordance with respective voltage levels at the first and second power supplies and supplying, as a second signal, a resulting signal to the intermediate potential supply unit,

the intermediate potential supply unit comprising:

a driver for generating a potential serving as the intermediate potential to be supplied to the second cable in accordance with the second signal; and

a switch for receiving the potential generated by the driver and a ground potential and selectively outputting, as the intermediate potential to be supplied to the second cable, either one of the potential generated by the driver and the ground potential in accordance with a switch signal.

3. A network apparatus for receiving data via a first cable and transmitting data via a second cable, the apparatus comprising:

a control unit operating with a first power supply and outputting a first signal;

an intermediate potential supply unit operating with a second power supply, recognizing a level of an intermediate potential on the first cable, and supplying an intermediate potential to the second cable; and

a level converting unit for converting a level of the first signal in accordance with respective voltage levels at the first and second power supplies and supplying, as a second signal, a resulting signal to the intermediate potential supply unit,

the intermediate potential supply unit comprising:

a driver for generating the intermediate potential to be supplied to the second cable in accordance with the second signal; and

a switch for switching between presence and absence of a power supply to the driver in accordance with a switch signal.

4. A network apparatus for receiving data via a first cable and transmitting data via a second cable, the apparatus comprising:

a control unit operating with a first power supply and outputting a first signal;

an intermediate potential supply unit operating with a second power supply, recognizing a level of an intermediate potential on the first cable, and supplying an intermediate potential to the second cable; and

a level converting unit for converting a level of the

first signal in accordance with respective voltage levels at the first and second power supplies and outputting, as a second signal serving as a basis for the intermediate potential to be supplied to the second cable, a resulting signal to the intermediate potential supply unit,

the level converting unit comprising:

a switch for selectively setting the second signal to a ground potential in accordance with a switch signal.

5. The network apparatus of any one of claims 1 to 4, wherein the switch receives a reset signal supplied from the outside of the network apparatus as the switch signal.

6. The network apparatus of any one of claims 1 to 4, wherein the intermediate potential supply unit comprises:

a potential detecting circuit for enabling a potential detect signal when a potential supplied from the second power supply is lower than a specified potential and

the switch receives the potential detect signal as the switch signal.

7. A network apparatus for receiving data via a first cable and transmitting data via a second cable, the apparatus comprising:

a control unit operating with a first power supply and outputting a first signal;

an intermediate potential supply unit operating with a second power supply, recognizing a level of an intermediate potential on the first cable, and supplying an intermediate potential to the second cable;

a level converting unit for converting a level of the first signal in accordance with respective voltage levels at the first and second power supplies and outputting, as a second signal serving as a basis for the intermediate potential to be supplied to the second cable, a resulting signal to the intermediate potential supply unit;

a diode for coupling the second cable to the first power supply; and

a resistor provided between the first power supply and the ground.

8. A network apparatus for receiving data via a first cable and transmitting data via a second cable, the apparatus comprising:

a control unit operating with a first power supply and outputting a first signal;

an intermediate potential supply unit operating with a second power supply, recognizing a level of an intermediate potential on the first cable, and supplying an intermediate potential to the second cable;

a level converting unit for converting a level of the first signal in accordance with respective voltage levels at the first and second power supplies and outputting, as a second signal serving as a basis for the intermediate potential to be supplied to the second cable, a resulting signal to the intermediate potential supply unit; and

loop interrupting means for forcibly setting the intermediate potential to a ground potential if a power supply to the network apparatus is interrupted.